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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,985	07/28/2003	Ross Michael Krill	PA-221	4117

7590 01/21/2005

MEREK, BLACKMON & VOORHEES, LLC  
673 South Washington Street  
Alexandria, VA 22314

EXAMINER

ORDERS, CHRISTOPHER H

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

10/627,985

Applicant(s)

KRILL, ROSS MICHAEL

Examiner

Christopher H. Orders

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 28, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>July 28, 2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:
  - The recitation of “not be truly inert” (pg. 1, ln. 21) is presumed to be --not truly inert-- for proper clarity.
  - The recitation of “intake manifold 3” (pg. 7, ln. 13) is presumed to be --intake manifold 2-- to properly reference the drawings.
  - The recitation of “pressure senor 10” (pg. 11, ln. 3) is presumed to be --pressure sensor 10-- for proper clarity.

Appropriate correction is required.

### ***Claim Objections***

2. Claim 9 is objected to because of the following informalities: The third section of claim 9 is labeled “(ii),” and should be labeled --(iii)-- for proper clarity.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen (4,413,951). Allen teaches an apparatus for producing a pressurized stream of

Art Unit: 3746

substantially inert gas, the apparatus comprising; (i) a compressor (10) having an intake manifold (22) and an output manifold (33), said intake manifold (22) receiving a substantially inert gas stream (Col. 2, In. 66 – Col. 3, In. 3), said output manifold (33) receiving a stream of pressurized gas from said compressor (Col. 4, In. 32-33); (ii) a compressed gas re-circulation conduit (comprising a path through 33 to 34 to 45 to 50 to 54 to 22) connecting said output manifold (33) to said intake manifold (22) such that a portion of the pressurized gas from said compressor (10) is re-circulated from said output manifold (33) back to said intake manifold (22) to maintain the gas pressure within said intake manifold above atmospheric pressure and to prevent atmospheric gases from being drawn into said intake manifold (Col. 3, In. 3-19); a valve (50) situated within said gas re-circulation conduit (connecting lines 45 and 54) to control the volume and flow of gas therethrough; a pressure sensor (inherent for operation as disclosed in Col. 6, In. 26-30) in said intake manifold (22) to monitor the gas pressure therein; and a spring actuated regulator (Col. 4, In. 60-63).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (4,413,951) in view of Glanvall (4,932,844) and Dourdeville (5,637,208). Allen teaches

Art Unit: 3746

a valve (50) that automatically adjusts in said gas re-circulation conduit (connecting lines 45 and 54) in response to fluctuations in the gas pressure in said intake manifold (22) so as to control the flow of compressed gas to said intake manifold (22) and to maintain the gas pressure therein within a desired range to prevent atmospheric gases from being drawn into said intake manifold (Col. 3, ln. 3-19). Allen does not expressly disclose that said valve can be pneumatically, hydraulically or electrically actuated, and include a microprocessor control that receives a signal from said pressure sensor.

Glanvall teaches a valve that is known within the art that is hydraulically or electrically actuated, and includes a microprocessor control that receives a signal from a pressure sensor and automatically adjusts said valve in response to the prevailing pressure ratio (Col. 1, ln. 29-37). Further, Dourville teaches using pneumatic or electrical actuation (36a) for valve control (Col. 6, ln. 29-33) using a processor (49). At the time of the invention it would have been obvious to one of ordinary skill in the art to combine the hydraulic/solenoid valve actuation of Glanvall or the pneumatic actuation of Dourdeville with valve in the re-circulation line of Allen for the benefit of increased compression efficiency (Glenvall, Col. 1, ln. 18-21).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (4,413,951). Allen expressly teaches all of the claim limitation except manual actuation of the valve. However, Allen discloses that is known within the art to use manual actuation to control a valve (Col. 1, ln. 51-59). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use manual actuation of the valve to avoid additional complication of the system associated with automation.

Art Unit: 3746

8. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (4,413,951) in view of Moody (5,663,121). Allen expressly discloses teaches all of the claim limitations except one or more internal combustion engines operatively connected to said compressor and utilized to drive said compressor, said intake manifold of said compressor receiving the exhaust stream from said internal combustion engines, and the stream of substantially inert gas comprises the exhaust from said one or more internal combustion engines.

9. Moody teaches one or more internal combustion engines (not shown) operatively connected to said compressor and utilized to drive said compressor (Col. 2, ln. 55-59 and Col. 6, ln. 12-19), the intake manifold of the compressor (not shown) receiving the exhaust stream (28) from said internal combustion engines (not shown), and the stream of substantially inert gas (28) comprises the exhaust from said one or more internal combustion engines (Col. 2, ln. 55-59). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the engine of Moody with the compressor of Allen to obtain an inert gas producing apparatus wherein the compressor is protected from damage due to the variation in supply pressure (Allen, Col. 1, ln. 26-31 and Col. 2, ln. 38-40).

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher H. Orders whose telephone number is (571) 272-7163. The examiner can normally be reached on Monday-Friday, 6:30am-3:30pm.

Art Unit: 3746

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CHO

  
**CHERYL TYLER**  
**SUPERVISORY PATENT EXAMINER**